

REMARKS

Reconsideration of this application is requested. Claims 1-11 are pending in the application subsequent to entry of this amendment.

A more appropriate abstract of the disclosure consistent with the requirements mentioned in item 2 of the Official Action is supplied to replace that included with the published PCT application.

In item 3 of the Action the examiner regards claims 5-11 as being indefinite. It is stated that proper antecedent basis is lacking for "the electrode modifying layer adjacent to the anode". For purposes of illustration please consider Fig. 1 - the device is built up from the substrate (2) and the elements 4a and 4b are the optional electrode modifying layers. It's also possible, in its broadest sense, that either of 1b and 1a may be the anode and the other the cathode.

Claim 5 is dependent on claim 4 and claim 4 states that the electrode closest to the substrate is the anode--in Fig. 1 this would be electrode 1a. Claim 4 is dependent on claim 2 which states that there is an electrode modifying layer at the electrode/organic layer interface. Hence a combination of claim 4 and 2 means that there is a modifying layer and it is next to the anode. Claim 5 then states that the electrode modifying layer is adjacent the anode, i.e. effectively repeating what is in a combination of the preceding claims.

Nevertheless, for purposes of clarity claim 5 has been amended by inserting "there is an" before the term "electrode" and claim 7 is amended so that

it is dependent on claim 6 and not 5. Claim 7 is also amended in a similar manner to claim 5.

With respect to claim 9, "further comprises" means that the semi-conducting polymer is *in addition to* those elements listed in claim 1. Similarly claims 10 and 11 mean that those features are in addition to those given in the claims on which they are dependent. Claims 9-11 are clarified in this regard.

It is believed that the issues raised in item 3 of the Official Action have been resolved by appropriate claim adjustments and/or explanation. Favorable consideration is requested.

Items 5-9 of the Official Action are prior art-based rejections directed to various claims pending in the application. None of these documents, considered individually or collectively, anticipate or render obvious the claims of the present application. The present invention is characterized by saying a layer and, at page 6, applicants state:

"By stating that the organic layer is a single layer it is meant that the electron transport, hole transport and light-emitting functions are provided by a single layer."

This terminology is also reflected in claim 1, hence effectively all of the claims of this application.

Viewing the prior art with this single layer concept in mind, it will be apparent that none of the documents cited include, in a single layer, the functions of hole transporting, electron transporting and light emission. While applicants are able to provide additional layers, as suggested by the examiner, this does not alter the fact that all three functions mentioned must be provided in a single layer. None of the prior art documents has the option of providing "single" layer devices incorporating the compounds of

the present invention. Indeed, applicants have established the advantages of such devices with "single" layers, including primarily cost and manufacturing benefits.

Since all of the prior art documents share this same defect, namely neither disclosing nor suggesting a single layer that functions as a hole transporting, electron transporting and light emission layer, it is believed to be unnecessary to discuss each of the documents applied. Accordingly, the rejections stated in items 4-9 of the Official Action are traversed.


Reconsideration of this application and favorable action are solicited.

Attached hereto is a marked-up version of the changes made to the claim(s) by the current amendment. The attached page(s) is captioned "**Version With Markings To Show Changes Made.**"

Respectfully submitted,

NIXON & VANDERHYE P.C.

By: _____

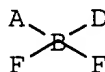

Arthur R. Crawford
Reg. No. 25,327

ARC:pfc
1100 North Glebe Road, 8th Floor
Arlington, VA 22201-4714
Telephone: (703) 816-4000
Facsimile: (703) 816-4100

VERSION WITH MARKINGS TO SHOW CHANGES MADE

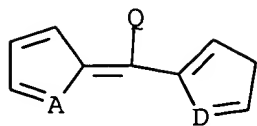
IN THE CLAIMS

1. (Amended) An organic light emitting diode device comprising a substrate bearing an organic layer sandwiched between electrode structures wherein the organic layer comprises a hole transporter, an electron transporter and a light emitter wherein the electron transporter or the light emitter or the electron transporter and the light emitter comprise a material of general formula I

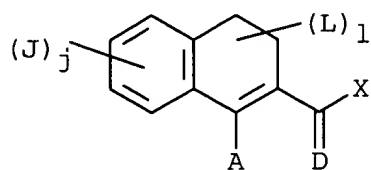


Formula I

wherein A D is selected from the following:

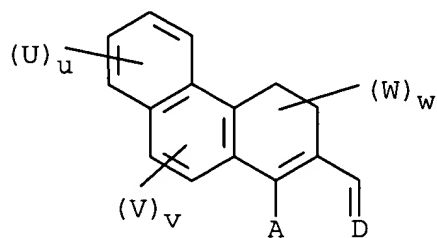


wherein A and D are both N, and the ring systems are, independently of each other, optionally substituted with one or two or three groups independently selected from C1 - C8 straight chain or branched chain alkyl or alkoxy; Q is CN or H or C₁₋₈ straight chain or branched chain alkyl;



wherein A and D are [given by] O or N, X is [given by]

C₁₋₅ straight chain or branched chain alkyl or alkoxy and the ring systems are, independently of each other, optionally substituted with one or more groups J and L independently selected from C1 - C8 straight chain or branched chain alkyl or alkoxy wherein j is selected from 0-4 and l is selected from 0-2;



wherein A and D are [given by] O or N and the ring

systems are, independently of each other, optionally substituted with one or more groups U, V, W independently selected from C1 - C8 straight chain or branched chain alkyl or alkoxy wherein u is 0-4, v is 0-2 and w is 0-2;

[characterised in that] wherein the organic layer is a single layer.

5. (Amended) A device according to claim 4 wherein [the] there is an electrode modifying layer adjacent to the anode [comprises] comprising either PEDOT or polyaniline.

7. (Amended) A device according to claim 6 [5] wherein [the] there is an electrode modifying layer adjacent to the cathode [comprises] comprising either MgF₂ or LiF.

9. (Amended) A device according to [any of the preceding claims] claim 1 wherein the organic layer [further comprises] additionally includes a semi-conducting polymer.

10. (Amended) A device according to claim 1 wherein the organic layer [further comprises] additionally includes one or more charge transporting compounds.

11. (Amended) A device according to claim 1 wherein the organic layer further [comprises] additionally includes a substantially non-conducting polymer and charge transporting compounds.